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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------|
| 09/573,650   | 10/09/2001  | Peter J. Anslow      | 708-1003                | 6193             |
| 7590   | 07/26/2004  |                      |                         | EXAMINER         |
| William M. Lee, Jr.<br>Lee, Mann, Smith, McWilliams, Sweeney & Ohlson<br>Suite 410<br>211 South LaSalle Street<br>Chicago, IL 60604-1202 |             |                      |                         | PAYNE, DAVID C   |
|  |             |                      | ART UNIT                | PAPER NUMBER     |
|  |             |                      | 2633                    |                  |
|  |             |                      | DATE MAILED: 07/26/2004 |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

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| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |
|------------------------------|------------------------|---------------------|
|                              | 09/973,650             | ANSLOW ET AL.       |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |
|                              | David C. Payne         | 2633                |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

**THE MAILING DATE OF THIS COMMUNICATION:**

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 09 October 2001.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## **Disposition of Claims**

4)  Claim(s) 1-28 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 15 and 26 is/are allowed.

6)  Claim(s) 1-14, 16-25, 27 and 28 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 09 October 2001 is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
    Paper No(s)/Mail Date .  
4)  Interview Summary (PTO-413)  
    Paper No(s)/Mail Date. \_\_\_\_ .  
5)  Notice of Informal Patent Application (PTO-152)  
6)  Other: \_\_\_\_ .

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 2, 3, 4, 7, 10, 11, 12, 21, 22, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claim 3 recites the limitation "said high bit error ratio" and "said low bit error ratio" in the body of claim. There is insufficient antecedent basis for this limitation in the claim.
4. Claim 7 recites the limitation "the high bit error ratio" and "said extrapolations in the lower bit error ratio" in the body of claim. There is insufficient antecedent basis for this limitation in the claim.
5. Claim 11 recites the limitation "said high bit error ratio" and "said low bit error ratio" in the body of claim. There is insufficient antecedent basis for this limitation in the claim.
6. Claim 22 recites the limitation "said high bit error ratio" and "said low bit error ratio" in the body of claim. There is insufficient antecedent basis for this limitation in the claim.
7. The terms "high bit error ratio" and "low bit error ratio" in claims 2, 3, 7, 10, 11, 21 and 22 are a relative term, which renders the claim indefinite. The term "high bit error ratio" and "low bit error ratio" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not

be reasonably apprised of the scope of the invention. The high and low terms do not give an indication as relative to each other or some universal BER. The term is ambiguous.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 6, 9, 14, 20, 25, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Taga et al. US 5,585,954 (Taga).

Regarding claim 1, Taga disclosed

A method of measuring the amplitude distortion component in an optical transmission signal subject to noise and amplitude distortion components, the method comprising determining the amplitude distortion component by analyzing the bit error ratio (BER) of the signal as a function of a movable decision threshold (e.g., Taga col. 4 lines 40-50).

Regarding claim 9, Taga disclosed

An optical transmission system comprising measuring means to measure the amplitude distortion component in an optical transmission signal subject to noise and amplitude distortion components, the measuring means adapted to measure the amplitude distortion

component by analyzing the bit error ratio (BER) of the signal as a function of a movable decision threshold (e.g., Taga col. 4 lines 40-50).

Regarding claims 20 and 27 Taga disclosed

An optical receiver comprising detector means to detect optical signals from an optical transmission system and convert them into their electrical equivalent, the receiver comprising measuring means to measure the amplitude distortion component in a said optical signal subject to noise and amplitude distortion components, the measuring means adapted to measure the amplitude distortion component by analysis of the bit error ratio (BER) of the signal as a function of a movable decision threshold (e.g., Taga col. 4 lines 40-50).

Regarding claims 6, 14 and 25, Taga disclosed

the step of providing said BER values by comparing the said signal with a said variable decision threshold (e.g., Taga col. 4 lines 40-50).

#### ***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 8, 16-19 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taga et al. US 5,585,954 (Taga) in view of Scholz et al. US 5,325,397 (Scholz).

Regarding claims 8, 16-19, 28

Taga does not disclose a method performed by a programmed computer with a stored program. Scholz disclosed a computer that performs a BER rate detection against thresholds (see Scholz e.g., 57 of Figure 8. It would have been obvious to one of ordinary skill in the art at the time of invention to use a processor to perform a BER threshold calculation because this would allow easy adjustment of the algorithm to fine tune the stored (60 of Figure 8) BER calculation method.

***Allowable Subject Matter***

1. Claims 15 and 26 are allowed.
2. Claims 3-5, 7, 11-13, and 22-24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
3. The following is an examiner's statement of reasons for allowance: Taga disclosed a BER calculation method using a variable threshold decision making circuit while Scholz disclosed a similar method with the addition of assisting hardware like a microprocessor and memory.

However, neither Taga or Scholz alone or in combination suggest

An optical transmission system, comprising optical receiver means to detect optical transmission signals and convert them into their electrical equivalent, clock extraction means to extract clock timing signals from the received optical signals, first and second digital-to-analogue converters providing first inputs to first and second analogue amplifiers, said optical receiver means providing second inputs to said first and second analogue amplifiers, first and second bi-stable circuit means connected respectively to outputs of said first and second analogue amplifiers and synchronized by said extracted clock signals, outputs of said bi-stable circuit means connected to inputs of an exclusive-OR gate, an output of said exclusive-OR gate providing error signals input to a counter, whereby said counter accumulates a count representing the bit error ratio in said received optical signals, and said / digital-to-analogue converters being controlled by processor means to determine decision threshold separations VI and V2 in the eye that represent amplitude distortion components in said received optical signals.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

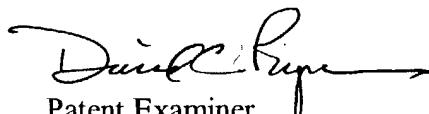
***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp



Patent Examiner  
AU 2633

|                                   |  |                                       |   |             |
|-----------------------------------|--|---------------------------------------|---|-------------|
| <b>Notice of References Cited</b> |  | Application/Control No.<br>09/973,650 | Applicant(s)/Patent Under<br>Reexamination<br>ANSLOW ET AL. |             |
|                                   |  | Examiner<br>David C. Payne            | Art Unit<br>2633  | Page 1 of 1 |

**U.S. PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Name          | Classification |
|---|---|--|-----------------|---------------|----------------|
|   | A | US-5,585,954 A                                   | 12-1996         | Taga et al.   | 398/26         |
|   | B | US-5,325,397 A                                   | 06-1994         | Scholz et al. | 375/224        |
|   | C | US-  |                 |               |                |
|   | D | US-  |                 |               |                |
|   | E | US-  |                 |               |                |
|   | F | US-  |                 |               |                |
|   | G | US-  |                 |               |                |
|   | H | US-  |                 |               |                |
|   | I | US-  |                 |               |                |
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**FOREIGN PATENT DOCUMENTS**

| * |   | Document Number<br>Country Code-Number-Kind Code | Date<br>MM-YYYY | Country | Name | Classification |
|---|---|--|-----------------|---------|------|----------------|
|   | N |  |                 |         |      |                |
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|   | R |  |                 |         |      |                |
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**NON-PATENT DOCUMENTS**

|   |   |   |
|---|---|---|
| * |   | Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages) |
|   | U |   |
|   | V |   |
|   | W |   |
|   | X |   |

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.